



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

| APPLICATION NO.   | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|---|-------------|----------------------|---------------------|------------------|
| 10/627,093  | 07/25/2003  | Richard D. Ciervo    | AO694               | 2242             |
| 7590  | 12/19/2005  |                      | EXAMINER            |                  |
| Arthur G. Schaier<br>Carmody & Torrance LLP<br>50 Leavenworth Street<br>P.O. Box 1110<br>Waterbury, CT 06721-1110 |             |                      | ALEXANDER, JOHN D   |                  |
|   |             |                      | ART UNIT            | PAPER NUMBER     |
|   |             |                      | 3762                |                  |
| DATE MAILED: 12/19/2005   |             |                      |                     |                  |

Please find below and/or attached an Office communication concerning this application or proceeding.

|                              |                        |                     |
|------------------------------|------------------------|---------------------|
| <b>Office Action Summary</b> | <b>Application No.</b> | <b>Applicant(s)</b> |
|                              | 10/627,093             | CIERVO, RICHARD D.  |
|                              | <b>Examiner</b>        | <b>Art Unit</b>     |
|                              | John D. Alexander      | 3762                |

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

1) Responsive to communication(s) filed on 07 November 2005.  
 2a) This action is FINAL.                            2b) This action is non-final.  
 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

4) Claim(s) 1-3,5-15 and 18-21 is/are pending in the application.  
 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.  
 5) Claim(s) \_\_\_\_\_ is/are allowed.  
 6) Claim(s) 1-3, 5-15, and 18-21 is/are rejected.  
 7) Claim(s) \_\_\_\_\_ is/are objected to.  
 8) Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

9) The specification is objected to by the Examiner.  
 10) The drawing(s) filed on 25 July 2003 is/are: a) accepted or b) objected to by the Examiner.  
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).  
 11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
 a) All    b) Some \* c) None of:  
 1. Certified copies of the priority documents have been received.  
 2. Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
 3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

1) Notice of References Cited (PTO-892)  
 2) Notice of Draftsperson's Patent Drawing Review (PTO-948)  
 3) Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
 Paper No(s)/Mail Date \_\_\_\_\_.  
 4) Interview Summary (PTO-413)  
 Paper No(s)/Mail Date. 20051213.  
 5) Notice of Informal Patent Application (PTO-152)  
 6) Other: \_\_\_\_\_.

## DETAILED ACTION

### *Claim Rejections - 35 USC § 112*

**Claims 8-14** are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

- Regarding **Claim 8-13**, Claim 8 now recites the limitation “the threshold minimum value” in line 7. There is insufficient antecedent basis for this limitation in the claim. When examining the claim as to its merits, examiner has assumed that the phrase “not generating the out of zone alert when the sampled heartrate value is below the threshold minimum value until the threshold minimum value has been reached” on lines 6-8 should be --not generating the out of zone alert when the sampled heartrate value is above the threshold maximum value until the threshold maximum value is greater than a sample heartrate value --, as similarly recited in the originally filed Claim 8, lines 4-6 and most clearly described in the specification on page 8, lines 26-32 and page 9, lines 2-6.
- Regarding **Claim 14**, similar to above, there is insufficient antecedent basis for the limitation “the threshold minimum value” in line 7. When examining the claim as to its merits, examiner has assumed that the phrase “not generating the out of zone alert when the sampled heartrate value is below the threshold minimum value until the threshold minimum value has been reached” on lines 6-8 should be --not generating the out of zone alert when the sampled heartrate value is outside the Target Zone until a sample heartrate value is determined to be within the Target Zone--, as similarly recited in the originally filed Claim 14, lines 4-6 and described in the specification on page 4, lines 16-20.

***Claim Rejections - 35 USC § 102***

**Claims 1-3 and 5-14** are rejected under 35 U.S.C. 102(b) as being anticipated by Birnbaum et al. (Patent No. 6405077).

- Regarding **Claims 1 and 14**, Birnbaum et al. disclose a method of generating an out of zone alert when a sampled biomedical value does not satisfy a condition, wherein the generation of the out of zone alert is performed by an indicator (see Fig. 1, element 33), and the sampled biomedical value is determined in a heart rate monitoring system (Fig. 1; Col. 1, lines 7-20; Col. 3, line 19), the method comprising the steps of: not generating the out of zone alert when the sampled biomedical value fails to satisfy the condition until a sampled biomedical value is determined to satisfy the condition (Col. 10, lines 11-20 & 45-51), determining when a sampled biomedical value first satisfies the condition (Fig. 5, 6, & 7, elements t2 to t6; Col. 5, lines 57-63; Col. 8, lines 46-56); and thereafter, permitting the generation of the out of zone alert when the sampled biomedical value is determined not to satisfy the condition (Fig. 5, 6, & 7, dashed lines for “upper” and lower” thresholds of element LIM2 to LIM6; Col. 9, lines 61-65). Regarding the limitation that the indicator does not generate the out of zone alert until the sampled value is first determined to satisfy the condition, this is anticipated by Birnbaum et al.’s “fourth, fifth, and sixth embodiments,” described in Col. 8, lines 46-56 and Col. 10, lines 11-20 & 45-51. Here, the method includes supplying time information in the form of time periods “t1 to t7” that determine when the target zone thresholds and their respective alarms are enabled. In contrast to first embodiments where periods “TIME1 to TIME 7” enable the out of zone alarms even during warm-up and cool-down, the alternate embodiments with periods t1 to t7 are used to enable and time the armed period of the target

zones only beginning once the heart rate initially enters the target zone. Thereafter, the target zone alarms are enabled for the period, and any deviations outside the target zone boundaries trigger the respective alarm.

- Regarding **Claims 2, 3, and 5**, Birnbaum et al. disclose a method of generating an out of zone alert when a sampled heart rate value is below a threshold minimum value, wherein the method comprises: not generating the out of zone alert when the sampled biomedical value is below the threshold minimum value until the threshold minimum value has been reached (Col. 10, lines 11-20 & 45-51), determining when the sampled heart rate value is at or above a threshold minimum value (Fig. 5, 6, & 7, elements t2, t4, & t6 and lower dashed lines for LIM2, LIM4, & LIM6); and permitting the generation of the out of zone alert when the sampled heart rate value falls below the threshold minimum value (Col. 9, lines 61-65). Regarding not enabling the indicator to generate the out of zone alert until the threshold minimum value has been reached and thereafter generating an alert when the sampled heart rate falls below the threshold minimum value, comments made above in rejection of Claims 1 and 14 apply here as well, wherein the target zone alarms are enabled once the heart rate initially rises above the minimum threshold into the target zone.
- Regarding **Claim 6**, Birnbaum et al. further disclose that the generation of the out of zone alert is performed audibly and/or visually (Col. 6, lines 24-27).
- Regarding **Claim 7**, Birnbaum et al. further disclose the step of inputting the threshold minimum value into the heart rate monitoring system (Fig. 1, element 21; Col. 4, lines 55-59; Col. 9, lines 22-28).

- Regarding **Claims 8 and 9**, Birnbaum et al. disclose a method of generating an out of zone alert when a sampled heart rate value is above a threshold maximum value, wherein the method comprises: not generating the out of zone alert when the sampled heartrate value is above the threshold maximum value until the threshold maximum value is greater than a sample heartrate value (Col. 10, lines 11-20 & 45-51), determining when the sampled heart rate value is above the threshold maximum value (Fig. 5, elements t3 & t5 and upper dashed lines for LIM3 & LIM5); and permitting the generation of the out of zone alert when a subsequent sampled heart rate value is above the threshold maximum value (Col. 9, lines 61-65). Regarding not enabling the indicator to generate the out of zone alert until the threshold maximum value is greater than a sampled heart rate value and thereafter generating an alert when the sampled heart rate exceeds the threshold maximum value, comments made above in rejection of Claims 1 and 14 apply here as well, wherein the target zone alarms are enabled once the heart rate initially falls below the maximum threshold into the target zone.
- Regarding **Claims 10 and 11**, Birnbaum et al. further disclose repeatedly sampling heart rate values until the maximum threshold value exceeds a sampled heart rate value (Fig. 1, elements 11, 18, & 32; Fig. 2; Col. 3, lines 19-44; Col. 5, lines 10-20). Furthermore, regarding the steps of maintaining the inability to generate out of zone alerts until the maximum threshold value exceeds a sampled heart rate value, determining a next sampled heart rate value and determining that it is greater than threshold maximum value, and generating the out of zone alert, comments made above in rejections of Claims 1, 8, 9, and 14 apply here as well.

- Regarding **Claim 12**, Birnbaum et al. further disclose that the generation of the out of zone alert is performed audibly and/or visually (Col. 6, lines 24-27).
- Regarding **Claim 13**, Birnbaum et al. further disclose the step of inputting the threshold maximum value into the heart rate monitoring system (Fig. 1, element 21; Col. 4, lines 55-59; Col. 9, lines 22-28).

***Claim Rejections - 35 USC § 103***

**Claims 15 and 18-21** are rejected under 35 U.S.C. 103(a) as being unpatentable over Oglesby et al. (Patent No. 6783482). Oglesby et al. disclose a microprocessor based exercise device control system that includes a method of generating an out of zone alert when a sampled heart rate value does not satisfy a condition, wherein the generation of the out of zone alert is performed by an indicator, and the sampled heart rate value is determined in a heart rate monitoring system (Fig. 13; Col. 7, lines 64-67; & Col. 8, lines 1-45). The disclosed method includes not generating the out of zone alert when the sampled heart rate is outside a target zone, including below a threshold minimum or above a threshold maximum, until a sampled heart rate is first determined to be within the target zone. Oglesby et al. do not disclose determining whether the sampled heart rate fails to satisfy a condition for more than a predetermined continuous period of time, and if so: suppressing further generation of the out of zone alert even if a next successive sampled heart rate value fails to satisfy the condition, and if not: generating the out of zone alert. However, examiner considers that, after some particular amount of time during which the user's heart rate continuously remains outside the maximum or minimum thresholds of a target zone after initially reaching the target zone, it would be reasonable to assume that the user has discontinued the effort to retain his/her heart rate within the target zone.

For example, the exerciser may have become exhausted or rushed for time. Under such circumstances, it would appear that, for the moment, the user's workout program has changed. For example, the exerciser may have decided to run at a slower pace for a period of time before attempting to re-attain the target zone, or he/she may have decided to sprint for a period of time, or he/she may have decided to enter the cool-down period early. Oglesby et al. teach that it is desirable to provide only that information to the user that is most useful for the particular workout that is he/she is performing at the moment (Col. 4, lines 23-26) because the room for displayed information is limited and non-relevant information can be annoying to the user (Col. 4, lines 21-23). The out of zone alert proposed by Oglesby et al. is in the form of a displayed message with the relatively long text string, "LEAVING TARGET HEART RATE ZONE." Therefore, it seems that Oglesby et al. suggest to one of ordinary skill in the art that it would be advantageous to discontinue the out of zone alert after a period of time because the alert may lose relevance, waste screen space, and annoy the user. Furthermore, after deciding that the user has changed workout modes by discontinuing the effort to retain his/her heart rate within the target zone, it would follow that the exercise control system would continue the corresponding suppression of the out of zone alert as long as the user remains in the other workout mode. Therefore, it would have been obvious to one of ordinary skill in the art at the time of applicant's invention to modify the exercise control system of Oglesby et al., from the motivation provided therein, to incorporate the method of suppressing further generation of the out of zone alert if it is determined that the sampled heart rate fails to remain within the target zone for more than a predetermined continuous period of time, and continually suppressing further generation of the out of zone alert for successive sampled heartrate values that fail to satisfy the condition. If the

user's heart rate were to re-enter the target zone, Oglesby et al. disclose indicating that the sample heartrate value has satisfied the condition (Fig. 13, element 178; Col. 8, lines 33-38).

***Response to Arguments***

Regarding Claims 1-3 and 5-14, Applicant's arguments filed November 7, 2005 have been fully considered but they are not persuasive. Examiner respectfully asserts that Birnbaum et al. do indeed describe not generating an indication that the measured heartrate is outside a target zone, including below a minimum threshold and above a maximum threshold, until the sampled heartrate has initially reached the target zone. Examiner agrees that the passage cited in Col. 6, lines 50-55 describes an embodiment wherein an alarm is generated regardless of whether the target zone has first been reached. However, examiner is relying on a separate set of embodiments that are described in Figs. 5, 6, and 7, elements t2 to t6, Col. 8, lines 46-56 and Col. 10, lines 11-20 & 45-51. Here, Birnbaum et al. describe supplying time information in the form of time periods t1 to t7 that determine when the target zone thresholds and their respective alarms are enabled. In contrast to embodiments where periods TIME1 to TIME7 enable the out of zone alarms even during warm-up and cool-down, the alternate embodiments with periods t1 to t7 are used to enable and time the armed period of the target zones only beginning once the heart rate initially enters the target zone. Thereafter, the target zone alarms are enabled for the period, and any deviations outside the target zone boundaries trigger the respective alarm.

Regarding Claims 15, 16, 19, and 21 as previously rejected under 35 U.S.C. 102(b) as anticipated by Chino et al., Applicant's arguments, see page 10, filed November 7, 2005, have been fully considered and are persuasive in view of the amendment to Claim 15. This rejection has therefore been withdrawn. Examiner agrees that Chino et al. do not disclose or suggest

continually suppressing further generation of the out of zone alert for successive sampled heartrate values that fail to satisfy the condition until a value satisfies the condition, and when the sampled heartrate does satisfy the condition, indicating that the sampled heartrate value has satisfied the condition.

Regarding Claims 15-21 as previously rejected under 35 U.S.C. 103(a) as being unpatentable over Oglesby et al., Applicant's arguments, see page 11, filed November 7, 2005, have been fully considered but are not persuasive. In view of Applicant's arguments, examiner has withdrawn the assertion that Oglesby et al. disclose a manual means to accomplish the same result as provided by the automatic means of Applicant's claimed invention. Oglesby et al. describe program buttons that allow the user to change workout parameters on the fly, but such does not necessarily suggest a method of silencing the out of zone alert after a predetermined amount of time. However, Applicant has not addressed the second grounds of rejection that were related in the Non-Final Rejection (page 9 & top half of page 10) and are maintained above in pages 6 and 7 of this Action. Here, Oglesby et al. teach that it is desirable to provide only that information to the user that is most useful for the particular workout that is he/she is performing at the moment (Col. 4, lines 23-26) because the room for displayed information is limited and non-relevant information can be annoying to the user (Col. 4, lines 21-23). Furthermore, the out of zone alert proposed by Oglesby et al. is in the form of a displayed message with the relatively long text string, "LEAVING TARGET HEART RATE ZONE." It seems that these teachings would suggest to one of ordinary skill in the art that it would be advantageous to discontinue the out of zone alert after a period of time because the alert may lose relevance, waste screen space, and annoy the user. The period of time for initiating suppression of the alarm would correspond

to an apparent decision by the user to discontinue the effort to retain his/her heartrate within the target zone (e.g. a change to a workout mode where the previous out of zone alert is no longer relevant). Furthermore, after deciding that the user has changed workout modes, it would follow that the exercise control system would continue the corresponding suppression of the out of zone alert as long as it remained irrelevant. If the user's heartrate were to re-enter the target zone, Oglesby et al. disclose indicating that the sample heartrate value has satisfied the condition (Fig. 13, element 178; Col. 8, lines 33-38).

***Conclusion***

**THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to John D. Alexander whose telephone number is (571) 272-8756. The examiner can normally be reached on Monday-Friday, 9:00-5:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Angela Sykes can be reached on (571) 272-4955. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

JDA



JEFFREY R. JASTRZAB  
PRIMARY EXAMINER

12/14/05